1. Laura and Sean find the product of $\frac{2}{3} \times 4$ using different methods.

   *Laura:* It's 2 thirds of 4.
   *Sean:* It's 4 groups of 2 thirds.

   $$\frac{2}{3} \times 4 = \frac{4}{3} + \frac{4}{3} = 2 \times \frac{4}{3} = \frac{8}{3}$$
   $$\frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = 4 \times \frac{2}{3} = \frac{8}{3}$$

   Use words, pictures, or numbers to compare their methods in the space below.

   **Both are correct. $\frac{2}{3} \times 4$ is $\frac{8}{3}$ of 4.**

2. Rewrite the following addition expressions as fractions as shown in the example.

   *Example:* $\frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{4 \times 2}{3} = \frac{8}{3}$

   a. $\frac{7}{4} + \frac{7}{4} + \frac{7}{4} = \frac{7 \times 3}{4} = \frac{21}{4}$
   b. $\frac{14}{5} + \frac{14}{5} = \frac{14 \times 2}{5} = \frac{28}{5}$
   c. $\frac{4}{7} + \frac{4}{7} + \frac{4}{7} = \frac{4 \times 3}{7} = \frac{12}{7}$

3. Solve and model each problem as a fraction of a set and as repeated addition.

   *Example:* $\frac{2}{3} \times 6 = 2 \times \frac{6}{3} = 2 \times 2 = 4$.

   a. $\frac{1}{2} \times 8 = 4$

   b. $\frac{3}{5} \times 10 = 6$

   10 × $\frac{3}{5} = 6$

   $\frac{15}{5} = 3$
4. Solve each problem in two different ways as modeled in the example.

Example: \( 6 \times \frac{2}{3} = \frac{6 \times 2}{3} = \frac{3 \times 2}{3} = \frac{3 \times 4}{3} = 4 \)  \( 6 \times \frac{2}{3} = \frac{2 \times 2}{3} = 4 \)

a. \( 14 \times \frac{3}{7} = \frac{14 \times 3}{7} = \frac{7 \times 3 \times 2}{7} = \frac{7 \times 6}{7} = \frac{42}{7} = \frac{14 \times 3}{7} = \frac{214 \times 3}{14} = 6 \)

b. \( \frac{3}{4} \times 36 = \frac{3 \times 6 \times 3}{4} = \frac{9 \times 4 \times 3}{4} = \frac{9 \times 12}{4} = \frac{108}{4} = \frac{3}{4} \times 36 = \frac{36 \times 3}{14} = \frac{27}{1} = 27 \)

5. Solve each problem any way you choose.

a. \( \frac{1}{2} \times 60 = \frac{1 \times 60}{2} = \frac{30}{1} = 30 \) \( \frac{1}{2} \text{ minute} = 30 \text{ seconds} \)

b. \( \frac{3}{4} \times 60 = \frac{3 \times 60}{4} = \frac{9 \times 15}{4} = 45 \) \( \frac{3}{4} \text{ hour} = 45 \text{ minutes} \)

c. \( \frac{3}{10} \times 1000 = \frac{3 \times 1000}{10} = \frac{300}{1} = 300 \) \( \frac{3}{10} \text{ kilogram} = 300 \text{ grams} \)

d. \( \frac{4}{5} \times 100 = \frac{4 \times 100}{5} = \frac{80}{1} = 80 \) \( \frac{4}{5} \text{ meter} = 80 \text{ centimeters} \)

Lesson 8: Relate a fraction of a set to the repeated addition interpretation of fraction multiplication.